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CHAPTER 10

MINOR MENTAL ABNORMALITIES IN CHILDREN

AS OCCASIONED BY

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CERTAIN ERRONEOUS SCHOOL METHODS.

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CHAPTER X.

MINOR MENTAL ABNORMALITIES IN CHILDREN AS OCCASIONED BY CERTAIN ERRONEOUS SCHOOL METHODS.[1]

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My discussion of this subject is based upon four distinct premises or propositions, each of which is a clearly proven and fully demonstrated truth—a fundamental principle—in some one of the various particular sciences. It is not my purpose to endeavor to substantiate any particular theory of education. We are not trying to bring forth evidence in favor of any "fad" or "ism." It is an unwelcome fact, but a fact, nevertheless, that mental abnormalities do exist in school children. To what is this seeming mental disintegration due? We know that in a large measure these mental abnormalities are the direct result of erroneous school methods—the logical attainment of a pseudoeducation.

The present paper is not at all concerned with the physical ills of the child, many and serious as they are, due to improperly appointed schoolrooms. "Schoolroom diseases" do exist, and the fact that they do exist is a stigma that we should all hasten to eradicate. That a healthy, laughing, romping child entering our modern school may be doing so at the probable expense of health is a sad commentary upon our modern educational methods. Can you wonder that a parent sometimes hesitates to give his child to the modern school when he knows from observation that his dearly beloved child may come back to him at the end of a few years broken in health? Must the parent of to-day take along with the modern school, possessing as it does so much that is excellent, utilizing as it does so many of the best educational facts and forces—must he needs take also those factors that make against rather than for the child's health? Can you criticise the parent for sometimes halting at the schoolroom door and repeating to himself the question, "What will it profit my child if he gain the whole world of knowledge and lose his health?"

But in these latter days reforms are being made in regard to seating, ventilation, lighting, and heating, as well as provisions for exercise, recesses, and recretions, all of which goes to show the steadily growing belief of parents, teachers, and school officers in the dictum that "a ton of knowledge gained at the expense of a single ounce of health is far too dearly paid for." Our schoolhouses are being better builded, better equipped, and better appointed, so that as time advances the physical child—his health—will be more and more conserved.

But the mental abnormalities of school children, resulting from erroneous, misfit methods, have occupied the thought and evoked the sympathy of comparatively few, and for that reason I shall devote the entire time of this paper to the discussion of these mental abnormalities, their causes, and how they may be radicated.

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[1] A paper read at the Washington (1898) meeting of the National Educational Association, and published by the Commissioner of Education according to a request expressed in a resolution of the Association.

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My first premise I take from the domain of the science of biology. It is the law of heredity, in which we all believe to a greater or less degree. I mean the law of heredity only in its more restricted but fully established sense—namely, the acquired characteristics of the parent are not transmitted to the child. A strong belief in heredity has become so general and so widespread that the direct results of descent are looked for with supreme confidence. The good parent is supposed to have a good child, and the brilliant parent a brilliant child. Yet this is too sweeping, for goodness and brilliancy are qualities purely functional, and not structural. They are the results of friction, struggle, social conditions, environment. The question of the underlying physical structure of the child is quite different. Bone, muscle, nerve in their distribution are governed largely by heredity. But there is a difference between natural inheritance of structure and artificial acquirements. The father may be deaf and the mother a deaf-mute, but the child of these parents will have normal hearing and speech. I have made personal observation of one family in which both parents were deaf-yet their five children are perfectly normal as to hearing and speech. A man may have his nose pushed to one side and the woman he marries may have suffered the same deformity, and yet the children born to them will have perfectly straight noses. Both father and mother may be "star" mathematicians—the result of acquisition and study—but the children born to them may be unable to go beyond the "rule of three." Acquired characteristics are not transmitted. They are functional qualities rather than organic attributes. As Dr. Oppenheimer says in his recent book: "The doctrine of heredity, as commonly held, not only is falsely applied to human descents, but also renders the wisest and best efforts of training unnecessary and useless. For if at birth the child's bodily and mental organization is complete, if the characteristics of parents are handed down to offspring, then there the matter ends. Every remarkable parent would have equally remarkable children, and every deficient person would curse his descendants with a like deficiency; work, training, striving after noble ideals would be useless and silly." All individual efforts at self-improvement would be worthless, every individual impulse would be incapable of realization, every endeavor of parent or teacher would be at an end. Not a single educational fact, not a single educational force but would fail of fruition.

But education is not a matter of such utter hopelessness. Pedagogical efforts are not doomed to such complete barrenness of results. To such a hopeless philosophy this world would be a dull blank and man little more than a grinning skull. If one really observe the laws of growth and mental development as they become actualized in every child he will see that there is a more wholesome, roseate philosophy of education. Happily, then, the child does not grow according to some hard and fast rule that has been implanted in him before he was born. The old Calvinistic form of pedagogy, called heredity by Darwin, has given place to the counter dogma of liberally minded men, as Rousseau, who says: "Everything is good as it comes from the hands of the Creator; everything degenerates in the hands of man." While both of these dogmas are too extreme—both the old Calvinistic and the more recent liberalistic—the sum of the whole matter is that entirely too much dependence has been placed upon heredity in its commonly accepted significance. Parents and teachers educate the minds, train the bodies, and develop the morals of the children under their care "not so much by what their ancestors were but what they themselves do and think." In the meantime in any case of mental abnormality in the child, the teacher will shift the blame on the parent and the parent in turn on the teacher until finally, with their utter lack of cooperation, the psychopathically disposed child really becomes mentally disintegrated and quite degenerate.

In how far does the school help to develop mental and nervous abnormalities when they could and should be checked and obliterated? In how far does the

school give rise to new evils that affect the mental power of the child—evils that would be entirely unnecessary were the courses of study, the daily programme, and schoolroom methods more fitting and better adapted to the child? This vital question will be answered more fully after our other premises have been set forth. In the light of the true conception of the doctrine of heredity we are warranted, however, in saying that we have usually taken too much for granted in believing that the child of 6 years of age as he knocks at our schoolroom door is more developed than is really the case. We certainly take too much for granted with reference to the knowledge possessed by the children we are called upon to educate. There is in fact next to nothing of real educational value the knowledge of which it is safe to assume at the beginning of school life. The child does not inherit in any form the knowledge acquired by his parents, and we must proceed in his education by bringing into exercise all methods of appeal to the child's mind. We must be prepared to educate the whole child and not take for granted that a certain segment of the circle of his intellectual life has been measureably formed, fashioned, or developed by heredity. We must so place our array of eductional forces that every form of the brain activity may be aroused and that appeal be made to every mental potency. If we take for granted that a certain parcel of knowledge is bestowed upon a child as an heirloom by his ancestors we are creating a possibility for mental abnormalities to appear in the particular child thus partially neglected.

My second premise I take from the domain of genetic psychology. It is also a firmly established, clearly demonstrated principle—an ultimate fundamental truth in the science that has given it its being. This principle is: Mental development in the child occurs by stages—by periods. Just as the entire body is not growing at any one time, so all the mental powers are not unfolding and growing at the same time. In bodily development growth settles for awhile on one set of muscles, one set of organs, and then another, and another, until the entire body is developed. Likewise, there is a nascent period for each mental faculty.

The first mental power to develop is sensation. At birth a child possesses but two senses—touch and temperature. They are the only windows of the soul open to receive the impressions that Mother Nature has to bestow upon him. A few hours after birth vision is added, then hearing, and after some days taste and smell, followed by the muscle sense and the others in turn.

The second epoch in the mind's process of unfolding is the memory stage. This is the period when the child is characterized by a prodigious power of remembering detail. A single hearing of rhyme or rule of song or catchy phrase is sufficient to insure its correct reproduction. We are all aware how much more difficult it is for us to commit rhymes or rules now than it was during our second or third year of school life.

The third epoch is the period of the growth of the imagination. Children love to live in a world of make-believe; they love to play circus, church, or school. How easy it is for the child to assume the rôle of Davy Crockett, Daniel Boone, Robinson Crusoe, or Buffalo Bill! During this period there is developed a mania which frequently occasions grave concern to parents. I refer to children's lies. Now, the lie of the child, it must be remembered, is by no means the same despicable moral offense as is the deceitful lie of the adult. It grows largely out of his desire to excite wonder. It is a bit of incipient research. He tries it, and if it works he tries it again; if not, he quits. But, in these rovings of the imagination he is not attempting primarily to deceive.

The fourth period is characterized by the peculiar activity of the powers of judgment and comparison. This in turn by the period of curiosity. Curiosity must be properly developed. No child whose curiosity is throttled and starved will ever become a good reasoner. He must first ask questions and reasons of others in order to be able to ask questions and reasons of himself.

I have thus outlined the periods of mental development for the purpose of showing that a well organized course of study must be in harmony with these processes of development in order to be successful. More depends upon the order of studies assigned than upon the contents of the studies themselves. You have heard of the experiment made some years ago by four teachers in the city of Paris, in the Lycée (the school for boys), who asked permission of the minister of education that each of them might give to his 25 pupils the same studies prescribed in the required course, but in a different order, an order believed by them to accord with the natural development of a boy's mind rather than in the arbitrary order demanded by cast-iron law. These boys completed all of the required studies in this natural order in three and a half years, instead of seven years, the time assigned for the completion of the course as regularly given in the Lycée. Upon examination they were found to be equally proficient mentally, and above the average in physical development, as compared with those who had spent seven years in going over the same ground. As teachers we should have constant regard for the great principles of mental waste and mental economy. The course of study should fit the child; the child should not be jammed into an arbitrary curriculum, sustaining no relation to the natural order in which his powers of mind and body unfold.

In some of our schools seven or eight years are still devoted to the study of arithmetic; yet we know that all of arithmetic can be taught the child and better taught, in the years between 7½ and 10. This is admirably done, to my personal knowledge, in at least 150 schools, saving much time and energy, and making room for important studies which would otherwise be crowded out. Now we all know that the time to educate any mental capacity is the time at which that particular mental power is most rapidly growing. The time to educate memory is when memory is most rapidly developing; the time to educate the senses is when the senses are most alert—i. e., when they are rapidly unfolding. We would not have "diseased imaginations" in our school children if we would only properly cultivate imagination when it is most rapidly growing. A host of mental abnormalities in school children can be traced directly to the fact that the course of study is not formed to correspond to the child's various periods of mental development.

If at any period of mental development, the proper mental food, the proper school study is not given, then the mental faculty that would otherwise grow so rapidly and unfold so perfectly (had it been properly fed and exercised) will be stunted in its growth and in all probability atrophy, because of disuse. The child's whole mental development will thus be impaired and a whole line of mental abnormalities will present themselves at a time too late for their complete eradication. Especially serious are the mental abnormalities which result from improper and insufficient training of the senses. All of the "raw material" of thought comes through the senses. All of the raw material acted upon by memory, imagination, judgment, comparison, and reasoning is gained through sense experiences. It can be said without fear of successful contradiction that if the education of the senses be neglected all subsequent education will partake of a vagueness, haziness, and inefficiency which will never admit of complete cure. From any sense-error any other conceivable error may arise. And yet how many methods of instruction there are so inopportune and inefficient that they really dwarf the senses. Train the senses of the child and the rest of the mental development will almost take care of itself. The truly successful teacher is the sense teacher, for she is trying not merely to impart knowledge but also to develop mental force. In cultivating the powers of sense of the pupil we accomplish four things for him, each one of which is vitally important: (1) We make his knowledge more accurate and clearly defined; (2) we make his knowledge more comprehensive and complete; (3) we develop his mental power; (4) we make his acquisition of knowledge pleas-

ant and delightful because the natural order is followed—"first the blade, then the ear, then the full corn in the ear."

My third premise I take from the domain of abnormal psychology. It is this: The process of mental disintegration attacks the higher, more complicated, and more recently developed faculties first, and the simplest and those earliest developed are the last to be affected. This premise requires but brief discussion, for its application is at once seen. It teaches us that when mental disintegration once sets in, it is the finest mental faculties that first fall prey. These minor abnormalties are serious then from the beginning. They may not be observed and made certain of until terrible havoc has been wrought. Reason, both deductive and inductive, may have crumbled and fallen into decay, and imagination, memory and the powers of sense be as perfect as before. It is necessary to be constantly on the alert for even the minor mental abnormalities in children so that mental disintegration of the highest mental faculties may not proceed too far before remedial measures are sought and applied. If the closest observation is not maintained in reference to pupils in whom minor mental abnormalities are even merely suspected, the loss may become irreparable.

Inasmuch as fatigue is the most common source of danger in this connection, close watch should be made for fatigue signs. Some important discoveries have been made with reference to fatigue and its influence upon mental and physical development. Fatigue is a physical poison, and bodily fatigue always induces mental fatigue. The nature of the chemical poison generated by fatigue has been investigated by the Russian chemist Wedensky, as well as by Maggiori and Mosso, in Italy. Overstrain at school, by producing fatigue, may be the occasion of destruction and disintegration of bodily tissue, and also cause serious and permanent mental defect. The best period of the entire day, both with respect to mental quickness and mental vigor, is between the hours of 8 and 10.15 o'clock in the morning; the worst is between 11 and 12 o'clock. The period between 1 and 2.30 o'clock in the afternoon is the third best, while that between 3 and 4 o'clock is second best. The heaviest school work should be assigned to the hours when the child's mind acts most vigorously and with the greatest quickness, and the lightest work should be so arranged as to come at the period of greatest mental depletion.

The teacher and parent should be especially observant with reference to "abnormal nerve signs" as occasioned by fatigue, misfit methods, and inopportune studies. The more common abnormal nerve signs that presage danger are disturbances of balance, twitching of hands and face, eye movements, postures of the head and hands, irritability, inattention, excitability. If the child slouches and shows no exact symmetry of balance, if the voice is of poor tone, if he can not fix his eyes well, but looks about by moving the eyes and not the head; if there is a bagginess of the underlids of the eyes, if he be inattentive and devoid of interest in the usual school occupations, if his response in action be slow and uncertain, one may be assured that such a child is fatigued to the point of danger.

Again, since we know the order in which the mental faculties disintegrate, and we do, we may know how far the mental disintegration has proceeded. If reasoning only be affected, the child is not suffering as much from mental abnormality as if the memory, judgment, or imagination be diseased. His *mal* is not so deep seated as it would be in the latter case. This is a point of much value, for if we know just how far the processes of mental disintegration have proceeded, we know best what occupations and methods we are to employ in order to counteract the disease.

My fourth and last premise is taken from the province of physiological psychology. It is the principle of localization of brain function. By this we mean that not all parts of the brain surface respond to the same stimuli and give birth

to the same kind of sensations. Neither are all parts of the brain cortex concerned in sending forth motor impulses of the same group or class. We know, for example, that any excitation of the nervous elements in the back part of the head give rise to visual sensations. It makes little difference whether they come through the eye or not—a slight mechanical jar at the back of the head is sufficient to cause one to see "stars." The brain center concerned in moving the finger is entirely distinct and separate from the one concerned in moving the arm. The outer gray rind or cortex of the brain is therefore a very complex organ, or rather, it is more like a very complicated keyboard, the responses coming in from those parts of the body that are in direct relation to certain specific forms of sensation. As Professor Hering, of Austria, says, "The different parts of the brain hemispheres are like a great tool box with a countless variety of tools. Each single element of the cerebrum is a particular tool. Consciousness may be likened to an artisan whose tools gradually become so numerous, so various, so specialized, that he has for every minutest detail of his work a tool that is especially adapted to perform just that precise kind of work very easily and accurately. If he loses one of his tools, he still possesses a thousand tools with which to do the same work, though under disadvantages both with reference to adaptability and the time involved. Should he happen to lose the use of these thousand also, he might retain hundreds with which to do the work still, but under greatly increased difficulty. He must needs have lost a very large number of his tools if certain actions become absolutely impossible, but the loss of a single tool is in every case just that much of a disadvantage." This quotation translated from Hering states very clearly the exact physical basis of education. If the child is to have full use of all the nerve cells of his brain cortex, they must be developed—educated—by use, by activity. If they are not brought into action by occupation, sense experiences, mental employ, they atrophy.

Now, at birth the child possesses all the brain cells it will ever have. Brain cells do not proliferate after birth. If they are not exercised they entirely drop out of existence—they die. The problem before us is to educate the entire brain of the child—it is given him for that purpose. We can give him this complete education only when we approach him through every one of his avenues of sense and educate him into a wide range of motor activity. Life is growth. A brain cell that does not grow is dead. A brain cell can not grow save through exercise and use. All the brain cells can be made to grow only when the school and home environment of the child is such as to appeal in every possible way and with sufficient energy to arouse the child's many-sided activity. If a certain group of nerve cells is uneducated, is allowed to die, then the child becomes mentally and nervously abnormal in just so far. Brain disorderliness is due more to one-sidedness of methods of education than to any other possible cause.

Before closing I wish to make reference to certain specific cases: H. is a boy of fair complexion, ranks twenty-fourth in his class, and is continually losing his hold on school work. The signs of nervous exhaustion were overmobility; he was decidedly fidgety; fullness under each eye, indicating that he was a sufferer from headaches. These were the most noticeable, though other "nerve signs" were present. It would be a mistake to leave a weak boy like that to do nothing all day, merely waiting for him to grow stronger. Such children are especially in need of education and training, but "a detailed study of abnormal nerve signs in the child will give assistance of practical value to those in charge of nervous and delicate children. They will reveal certain points to be aimed at in physical training. A knowledge of the brain disorderliness indicated by the signs will give plain hints as to the form of mental disorderliness likely to be met with in the pupil." (1) For instance, wandering eye movements lead to inaccuracy in copying work and in arithmetic; children with twitching finger move-

ments have spontaneous thoughts arising that lead to mental confusion and inaccurate answers to questions, also interfere seriously with memory. The child slow in all movements and slouching is apt to be dull in mental action until his posture, attitude, and response are improved upon. "Want of facial expression, grinning, frowning, protrusion of the tongue, ill-balanced hand postures, want of motor control, are all cardinal signs of brain disorderliness." The parent and teacher must patiently labor to remove such abnormal nerve signs and the brain disorderliness corresponding. Closely observing the circumstances under which each of the given signs most frequently subsides, one is enabled to carry on the best form of brain training. Nature study, in that it naturally calls all the child's mental powers into activity, is of much more value as a corrective and educative force than books alone. How the "The Barefoot Boy" of Whittier is to be envied in this regard.

Oh for boyhood's time of June,
Crowding years in one brief moon,
When all things I heard or saw,
Me, their master, waited for.
I was rich in flowers and trees,
Humming birds and honey bees;
For my sport the squirrel played,
Plied the snouted mole his spade;
For my taste the blackberry cone
Purpled over hedge and stone;
Laughed the brook for my delight
Through the day and through the night,
Whispering at the garden wall,
Talked with me from fall to fall;
Mine the sand-rimmed pickerel pond,
Mine the walnut slopes beyond,
Mine, on bending orchard trees,
Apples of Hesperides!
Still as my horizon grew,
Larger grew my riches too;
All the world I saw or knew
Seemed a complex Chinese toy,
Fashioned for a barefoot boy!

By nature study in the best sense, however, is not meant teaching science, but scientific teaching.

I can not refrain from calling attention to the very considerable danger arising from home study, especially in young children. In the so-called "study" at home the child becomes accustomed to certain irregularities of work that should never be cultivated. We should find out how much the child can do in a school day; let the child do such work at school, and let it feel that it leaves the school as the business man would his desk, with the business of the day done, and the satisfaction of well-deserved rest. Moreover, as Dr. Meyer has pointed out, "work at home creates that martyr-spirit with which the abnormally conscientious pupils pride themselves on having so much work to do, and on having to avoid company and society. These children are craving for admiring sympathy, and do this later in life, to the disadvantage of those who live up to more rational and sanitary rules."

Further, I must say that I have never seen a case of brain disorderliness that was not benefited by physical training. Evidence is available on this point from the comparison of a large number of pupils of schools with and without physical training. Physical training of the right sort, properly adapted to the child, tends to improve his brain condition, either preventing or removing disorderliness in motor and in mental action, and promotes healthy activity in both connections. This is absolutely true of children well-made in body, as well also of those in some slight degree below normal. A case in point: You may have in your school a

child whose mental processes are slow and limited, though fairly accurate. You ask him a question; his answer is slow in coming. You can best quicken the mental processes of such a child by quickening the interaction of his eye, ear, and hand by games of competition, such as baseball or tennis, where the action must be quick or failure result.

I have thus briefly considered some of the causes of nervous and mental abnormalities—how they could and should be checked. The school is not alone guilty, but only accessory. It is indeed distressing to the patriot and humanitarian to perceive how the mass of nervous evils, and at the same time mental and moral weaknesses and sins, increase in the people and how many are followed by these abnormalities from the cradle to the grave.